

**Staff Report for Resolution No. R3-2012-0025
ATTACHMENT 5**

**KEY ISSUES IN PUBLIC COMMENTS ON
MAY 14, 2012 DRAFT RESOLUTION NO. R3-2012-0025
AND CENTRAL COAST WATER BOARD STAFF RESPONSES**

**1. Issue: Technical Feasibility of the Runoff Retention Performance Requirement
a. Public Comment**

While some comments are supportive of the May 14 Draft Post-Construction Requirements (e.g., Comment USEPA 1), the majority of comments contend that the requirements are not technically feasible. Commenters find that various site conditions, both natural (e.g., low infiltrative soils) and conditions imposed by the development project (e.g., lot line to lot line infill), will impede development projects' ability to meet the requirements. Many comments single out the Runoff Retention Performance Requirement and the anticipated challenges of meeting it on low infiltrative C and D soil types in smaller, higher density projects. Some comments state that the approach is untested in the Central Coast and that rainfall and soil conditions would not allow the levels of infiltration called for in the Runoff Retention Performance Requirement (e.g., Comments Lompoc 7, Santa Barbara County 1, Wallace 5, CASQA 2).

To address these issues and reduce the impact of the Post-Construction Requirements on development projects, commenters recommend placing an upper limit on the amount of a development project area that must be devoted to stormwater retention. For example, several comments suggest that Central Coast Water Board staff "include a maximum percentage of a site that would be dedicated to runoff retention-based structural Stormwater Control Measures (e.g., pervious pavements, bioretention facilities), and recommend that, "10% of the total impervious area footprint of the project be the maximum threshold for structural stormwater control measures," (e.g., Comments Atascadero 16, Watsonville 1, Arroyo Grande 7). Comments further suggest "this approach will meet the Board's retention/infiltration objectives for the majority of sites as indicated by statewide examples (e.g., Contra Costa County) and initial calculations for hypothetical development scenarios." (Comment Atascadero 16).

b. Central Coast Water Board Staff Response

Technical feasibility is an issue on a small percentage of sites in the Central Coast Region. For these cases, we modified the Draft Post-Construction Requirements to include clear provisions for demonstrating technical infeasibility, while also specifying a reasonable limit on the amount of a site that needs to be dedicated to retention-based Stormwater Control Measures. We also agree that providing additional guidance on how to achieve compliance greatly assists in the interpretation of the Draft Post-Construction Requirements and will lead to more successful implementation. Central Coast Water Board staff revised the Draft Post-Construction Requirements to:

- Provide an event-based approach to hydraulic analysis that optimizes runoff volume retention, but allows runoff to flow off-site; i.e., if it is technically infeasible to do so, the project does not have to retain the full volume specified in the Runoff Retention Performance Requirement (See revisions to Post-Construction Requirements Section B.4.d.vi.).
- Incorporate the Permittees' suggestion that if technical feasibility constraints are demonstrated, and a portion of the site equal to 10 percent of the equivalent impervious area is devoted to retention-based Storm Water Control Measures, no off-site mitigation is required (*ibid.*).

- Provide additional relief for redevelopment projects within high-density, infill areas delineated by Permittees as Urban Sustainability Areas (See revisions to Post-Construction Requirements Section B.4.b.). Rather than applying the Runoff Retention Performance Requirement to 50 percent of replaced impervious surfaces for projects in Urban Sustainability Areas, as proposed in the May 14 Draft Post-Construction Requirements, Central Coast Water Board staff revised the requirements to say that replaced impervious surfaces need only match existing (pre-project) runoff retention, since receiving waters in Urban Sustainability Areas have likely reached an equilibrium with existing impervious density.
- Provide for flexibility in design of Stormwater Control Measures by allowing for underdrain systems when full retention is technically infeasible.

Central Coast Water Board staff believes these revisions better define compliance and adequately address concerns about the technical feasibility of retention requirements and expects cost to implement the requirements in infill and redevelopment to be lower as well.

Prior to making these revisions, the technical challenge of meeting the Runoff Retention Performance Requirement was limited to only a small percentage of projects (primarily redevelopment projects such as those within urban infill areas). For the majority of projects, and especially new development, the Draft Performance Requirements were then, and are now, technically feasible. Central Coast Water Board staff bases this conclusion on the fact that: 1) most urban areas of the Region are on infiltrative A and B soils, based on a summary evaluation of regional soil types; 2) most sites can incorporate Stormwater Control Measures without dedicating an unreasonable amount of the project site to do so, as indicated in case studies cited in the Technical Support Document, and supplemented by an independent analysis conducted for the Water Board (Technical Support Document, Attachment D); 3) new development (as compared to redevelopment/infill) can achieve the requirements even on D soils in most scenarios modeled; and 4) retention is not required everywhere in the Region, but rather in the select Watershed Management Zones where it addresses key watershed processes that naturally occur. However, the proposed revisions remove barriers to technical feasibility for the small percentage of projects that may face the challenges raised by commenters, while still providing off-site options via Alternative Compliance to mitigate environmental impacts associated with development.

2. Issue: Challenges to Implement Alternative Compliance

a. Public Comment

Alternative Compliance is the focus of many comments from Permittees and other stakeholders. The Post-Construction Requirements provide Alternative Compliance as, a) adjustments to how Performance Requirements are applied, and b) off-site mitigation options. For example, Urban Sustainability Areas provide Alternative Compliance by reducing the portion of a project site subject to Performance Requirements. Or, for example, Alternative Compliance provides the option for off-site mitigation where it is technically infeasible to meet the Performance Requirement on-site.

The comments offer a wide range of perspectives on the challenges of implementing Alternative Compliance with some comments arguing these challenges are significant enough to justify eliminating requirements for off-site mitigation (e.g., Atascadero 4). Permittees cite various difficulties with implementing Alternative Compliance, including: the limited availability of sites to perform off-site mitigation; the financing and scheduling obstacles to securing projects for off-site mitigation (e.g., Goleta 6, Atascadero 3, 6); and the general lack of experience with Alternative Compliance on the part of Permittees in California. These obstacles lead some

comments to state, there are, "...few potential applications of the Alternative (Off-site) Compliance approach...and as such [it] should be left as an option but it cannot be the only alternative for constrained sites" (Santa Barbara County 4).

Still others suggest that infill and redevelopment projects would present the greatest challenges for Alternative Compliance and that the Draft Post-Construction Requirements should expand the use of the Urban Sustainability Areas to effectively eliminate the requirement for off-site mitigation in these areas (Atascadero 5).

A select group of comments argue that the requirement for off-site mitigation itself is unjustified if it seeks to mitigate beyond the impacts of the proposed project. These comments state that a detailed analysis of the legal nexus of the actual project impact to the amount of the fee or alternative compliance requirement is required to avoid regulatory takings (e.g., Atascadero 2, Lompoc 15, City of San Luis Obispo 3, HBA 16). This takings issue, and Central Coast Water Board staff's response to it, is discussed in more detail in Key Issue No. 6, below.

b. Central Coast Water Board Staff Response

The concept of alternative compliance (such as "off-site mitigation") is a common approach in many programs, and many responsible parties (permittees) ask for alternative compliance options as a reasonable means of compliance. Alternative compliance serves to provide Permittees with a path to compliance while also ensuring impacts are mitigated. The Water Boards have used this concept in diverse situations and programs, and alternative compliance is a standard provision in contemporary stormwater permits throughout the State. Also, municipalities on the Central Coast have asked for an alternative compliance option since our initial discussions regarding post-construction requirements in February of 2008. Nevertheless, we recognize that there are challenges to developing an alternative compliance program, especially for larger communities with significant development activity.

Central Coast Water Board Staff revised the Draft Post-Construction Requirements to better address commenter's concerns about alternative compliance. The revisions clarify the basic requirements for off-site mitigation, allow for more flexibility in where off-site projects can be located, and provide more relaxed standards for financing and completing off-site projects. The revisions also establish a limit on how much of a site must be dedicated to infiltrative Stormwater Control Measures (10 percent; see revisions to Post-Construction Requirements Section B.4.e.). If the project applicant dedicates 10 percent of a site's equivalent impervious surface area to retention-based structural Stormwater Control Measures, then off-site mitigation is not required. Because it is expected to reduce the need for off-site compliance overall, this single revision is responsive to the major concerns from stakeholders about finding suitable locations for off-site projects, funding them, and constructing them in a reasonable time-frame. Central Coast Water Board staff expects these revisions, along with the other revisions to adjust how runoff retention requirements apply to infill projects (i.e., runoff retention requirements for replaced impervious surface revised to match, rather than improve upon existing conditions) to result in the need for far less off-site mitigation than would have been needed to implement the May 14 draft Post-Construction Requirements.

Also, the Central Coast Water Board has contributed funding for research by Cal State Monterey Bay on alternative compliance strategies and Central Coast Water Board staff anticipates the results of the research will inform efforts by Permittees to establish alternative compliance programs. In addition, the State Water Board recently awarded Prop 84 funds that will support the development of alternative compliance programs in the northern part of the Central Coast Region. Central Coast Water Board staff expects the Draft Post-Construction

Requirements, in combination with these resources, to drive innovation in the area of Alternative Compliance.

Eliminating the requirement to provide off-site mitigation via an alternative compliance program is not a realistic option because of the Maximum Extent Practicable standard, which is federal law, and it would not be protective of water quality and beneficial uses over the long term. That is, allowing technical infeasibility as a reason for no action, when there are other alternatives such as off-site mitigation, would not meet the Maximum Extent Practicable standard and would not be protective of water quality. Including the off-site mitigation requirement via an alternative compliance program increases compliance options, meets the federal standard, protects water quality, ensures impacts are mitigated, and is a more reasonable approach both technically and economically in the long term.

3. Issue: The Need to Promote Infill

a. Public Comment

Many comments suggest that the Draft Post-Construction Requirements will hinder Permittees' efforts to attract infill development and will instead push development to the outskirts and result in conflicts with other State mandated objectives regarding development. Permittees are being challenged to meet State goals for infill, compact urban form development, and growth. While some comments suggest that the Central Coast Water Board needs to be aware and respectful of other State-wide objectives related to growth that Permittees must address and find a "middle ground," some comments argue for exempting redevelopment and infill from some requirements to avoid potential conflicts with these other State-wide objectives (e.g., City of SLO 9, HBA 1, 9, Lompoc 18, Atascadero 4).

b. Central Coast Water Board Staff Response

Central Coast Water Board staff acknowledges multiple environmental benefits of infill and redevelopment as compared to greenfield development ("greenfield" means undeveloped land). We recognize that developing the urban core (infill development) rather than outlying areas is generally better for water quality and watershed health. Infill development typically requires less supporting infrastructure (e.g., roads, sewage collection systems), and does not expand the urban footprint. However, Central Coast Water Board staff does not agree that the Draft Post-Construction Requirements will force infill projects to be abandoned in favor of greenfield projects. The Draft Technical Support Document cites a study that indicates developers do not decide to invest in greenfield developments over redevelopment because of LID standards. The study indicates that developers' decision-making process for projects incorporates a wide range of economic factors, including various construction costs, current and future market conditions, regulatory incentives and disincentives, and uncertainty and risk. Many developers interviewed for the study described the cost of implementing stormwater controls as minor compared to other economic factors they considered in deciding whether or not to pursue a project, especially in the context of complex redevelopment projects and green building infill projects. The study points out that the demand for green buildings and sustainable stormwater practices has been increasing in response to the rapid growth in the global green building industry, which will likely play an important role in developers' decisions for how and where to build.¹

¹ECONorthwest. *Managing Stormwater in Redevelopment and Greenfield Development Projects Using Green Infrastructure: Economic Factors that Influence Developers' Decisions*, June 2011.

However, in response to these and other comments, staff revised its draft requirements to ensure they do not present an undue burden for infill projects. One revision, discussed above in Key Issue No. 1, allows applicable regulated projects in Urban Sustainability Areas additional relief from Runoff Retention requirements. As revised, these projects would only have to maintain existing (pre-project) levels of volume mitigation for replaced impervious surfaces. As a result, a qualifying infill project would bear no costs to meet Runoff Retention requirements if it is simply redeveloping existing impervious surfaces (See revisions to Post-Construction Requirements Section B.4.b).

Central Coast Water Board staff made this revision based on considering the relatively small percentage of our watersheds that are degraded due to dense development, versus the large percentage of undeveloped land that can be protected if we act now. Where should we and the municipalities focus our efforts? Ideally, we would do both -- restore the relatively small portion of degraded watersheds in urban areas via redevelopment standards and protect undeveloped areas. However, we and the municipalities have limited resources, and the current economic situation is very difficult. We are therefore prioritizing our efforts on protecting the much larger, relatively undeveloped areas, via these requirements and revisions.

The second significant revision specifies a 10 percent limit on what portion of a site's equivalent impervious surface area must be dedicated to retention-based structural Stormwater Control Measures (See Post-Construction Requirements Section B.4.e.). If a project meets the 10 percent limit, no off-site mitigation is required for the Runoff Retention Performance Requirement. By establishing an upper boundary on site area dedicated to stormwater controls, this revision provides a clear point of compliance that corresponds well with landscape dedications already required by many municipalities. The upper limit is particularly important for projects in areas of high rainfall depths and tight, clayey soils, though this combination of conditions affect only a fraction of all urbanized portions of the Central Coast Region. Sites with these conditions will be held to the runoff retention that is possible within the 10 percent area and no more.

Central Coast Water Board staff left unchanged the following requirements from the May 14 Draft Post-Construction Requirements, which further advantage infill projects over new development:

- 1) Adjusted retention requirements for any replaced impervious surfaces outside of Urban Sustainability Areas (retain the runoff from only 50% of replaced surfaces)
- 2) Flow-through (non-LID) options for water quality treatment up to a 15,000 square foot size threshold;
- 3) The option to mitigate off-site;
- 4) An allowance for event-based analysis and Stormwater Control Measure sizing that includes an underdrain where site soil conditions limit infiltration; and
- 5) No requirement to demonstrate technical infeasibility for projects in Urban Sustainability Areas, reducing analysis and reporting costs.

4. Issue: Requirements for Replaced Impervious Surfaces

a. Public Comment

Several comments take exception to the Draft Post-Construction Requirements' runoff retention requirements for replaced impervious surfaces. Some argue for a narrow focus for hydromodification control on erosion created from increased flows. Since, they suggest, "most redevelopment area storm drain systems have been designed for the existing runoff quantity and velocity ... erosion will not occur." According to this argument, in such places, impervious

surface replacement does not increase flow, so volume retention would appear unnecessary (e.g., Salinas 6)

Other comments argue that reducing flows by requiring retention in redevelopment areas might adversely affect aquatic life in the receiving waters by reducing the base flows below minimums required for their continued existence (Salinas 8). A related argument states that the urban runoff from surrounding developed areas, while it may not be clean or "natural," serves to help offset the reductions in creek flows from aquifer drawdown upstream. The comment cautions that measures to significantly reduce or alter freshwater inputs to the habitat need to be carefully considered and reviewed (Carpinteria 8).

b. Central Coast Water Board Staff Response

Central Coast Water Board staff revised the Draft Post-Construction Requirements to further insure a reasonable yet protective level of implementation in areas already affected by impervious surfaces. Nevertheless, all of these comments challenge a foundational concept of post-construction stormwater management in urban areas, namely, that requirements to achieve some improvement in existing conditions are necessary. The Joint Effort Literature Review, along with numerous Hydromodification Management Plans developed for cities and counties throughout the State, present ample evidence that improvements over existing conditions are necessary.

Watershed processes have been altered and interrupted by the build-out of impervious surfaces throughout urban areas of the Region. Performance Requirements are established for the protection of pre-disturbance watershed processes, and adjusted for a variety of factors affecting feasibility. The Draft Post-Construction Requirements seek modest levels of restoration of watershed processes through redevelopment of areas with high imperviousness.

The Case Study of the Hydrologic Benefits of On-site Retention in the Central Coast Region commissioned by Central Coast Water Board staff (See Technical Support Document, Attachment D) illustrates the degree to which watershed processes are altered by urban development and the extent to which runoff mitigation from redevelopment can improve those processes.

The comments also suggest that erosion will not occur in most redevelopment areas because existing infrastructure will prevent it. This assertion is contradicted by evidence of continuing stream degradation in many urban areas of the Region, as documented in the Methods and Findings of the Joint Effort.

The comments also assume erosion prevention is the single purpose of runoff volume mitigation and hydromodification control. The Draft Post-Construction Requirements were developed to address a broader suite of urban stormwater impacts, including the impacts associated with reduced infiltration of stormwater to support groundwater beneficial uses and aquatic life beneficial uses dependent on baseflow. The Technical Support Document provides a comprehensive discussion of the shift to a volume-based approach to managing urban runoff and supports the Draft Post-Construction Requirements as a means to achieve this shift, resulting in broader protections of beneficial uses impacted by urban runoff.

Central Coast Water Board staff anticipates that the modest pace of redevelopment and the limited scale of reductions in surface runoff volumes will generally limit habitat changes. Furthermore, changes should be positive as increased interflow and groundwater recharge have a generally positive influence on aquatic vegetation by increasing watercourse base flows over

existing conditions. For example, in a Case Study of the Hydrologic Benefits of On-Site Retention in the Central Coast Region (Technical Support Document, Attachment D), under dry, summer conditions, base flows are depleted by factors ranging from 2 to 7 if no on-site retention is provided. The case study concludes: “The depletion factor is directly related to the intensity of development as indicated by the percentage of impervious surface. However, with on-site retention facilities, base flows are actually augmented over the baseline case pre-development condition. This “over mitigation” may be restorative to varying degrees in stream basins where summer base flows may have been depleted by previous development that did not implement on-site retention.”

5. Issue: Cost

a. Public Comment

Concerns about the cost of the Draft Post-Construction Requirements underpin many categories of comments discussed in other Key Issues (e.g., cost is an obstacle for Alternative Compliance; cost will deter infill). The majority of cost concerns expressed in the comments relate to the potential to increase the costs for both public and private development (e.g., Carpinteria 9, Arroyo Grande 8, City of San Luis Obispo, 3, 8, HBA 1). Universally, Permittees seek improved economic conditions and growth and view new regulations as an impediment to both. Several comments specifically request that Central Coast Water Board staff conduct a cost-benefit analysis of the Draft Post-Construction Requirements (e.g., Arroyo Grande 8). Less concern was expressed about the direct costs to local agencies to implement the requirements, though the issue came up with respect to smaller communities and in reference to Permittee reporting requirements (e.g., Solvang 7, Atascadero 7).

b. Central Coast Water Board Staff Response

Central Coast Water Board staff recognizes there are costs associated with compliance with the Draft Post-Construction Requirements, and that many communities and businesses are currently experiencing significant economic hardship. Staff's revisions to the Draft Post-Construction Requirements, as well as several provisions that remain unchanged from the May 14, 2012 draft, represent a cost-conscious approach to post-construction stormwater management while also considering the federal Maximum Extent Practicable standard and long-term protection of water quality and beneficial uses. The revision specifying a 10 percent limit on the portion of a site dedicated to infiltration Stormwater Control Measures (See Post-Construction Requirements Section B.4.e.) equates to a cap on expenditures for any single development project. Also the revision affecting regulated projects in Urban Sustainability Areas is expected to reduce costs considerably. As described in Key Issue Nos. 1 and 3, this revision will result in a qualifying infill project bearing no costs to meet Runoff Retention requirements if it is simply redeveloping existing impervious surfaces (See revisions to Post-Construction Requirements Section B.4.b.). Central Coast Water Board staff also revised the Post-Construction Requirements to allow event-based analysis for all project sizes, thereby lowering the cost to comply in areas with low infiltration soils, and reducing the cost burden for hydraulic analysis borne by project applicants. The requirement to conduct continuous simulation analysis for projects $\geq 22,500$ ft² was also removed, further lowering costs for project design. Similar costs are avoided on projects in Urban Sustainability Areas, where off-site mitigation can be pursued without having to demonstrate technical infeasibility.

Staff has made these revisions to lower costs to public and private developments as much as possible while still assuring that the Draft Post-Construction Requirements will meet the objectives and requirements of the federal Clean Water Act and its associated regulations. As such, the Draft Post-Construction Requirements are designed to meet, and are within the scope of, the Clean Water Act. USEPA reviewed the May 14, 2012 Draft Post-Construction

Requirements, and found in its July 6, 2012 comment letter: “The draft Post-Construction Requirements provide an effective framework for ensuring that permittees utilize LID tools to reduce discharges from new and redevelopment projects to the maximum extent practical, as required by the Clean Water Act.”

Also, the comments regarding costs do not provide information to support the claim that the proposed requirements will have an adverse effect on the Central Coast's economic vitality. Post-construction stormwater requirements are being implemented in other regions of the State and nation and have not been demonstrated to have such effects. In fact, LID, as a mode of implementing post-construction requirements, “has been shown to be cost-effective and compares favorably to conventional stormwater management. As LID was developed by a local government, it is sensitive to addressing local government's unique environmental and regulatory needs in the most economical manner possible by reducing costs associated with stormwater infrastructure design, construction, maintenance and enforcement. LID also provides for local government's need for economic vitality through reasonable and continued growth and redevelopment. LID allows for greater development potential with less environmental impacts through the use of smarter designs and advanced technologies to achieve a better balance between conservation, growth, ecosystem protection and public health/quality of life.”²

The implementation of LID techniques across the US and Canada has demonstrated that the proper implementation of LID techniques results in more benefits than single purpose stormwater and flood control infrastructure, including increased water quality protection, enhanced property values, improved aquatic and terrestrial habitat, aesthetic amenities, and improved quality of life.³ Further, properly implemented LID techniques can help mimic the pre-project runoff volume and time of concentration, thus minimizing the adverse effects of hydromodification on stream habitat and biological condition.⁴ The Draft Post-Construction Requirements facilitate the implementation of LID strategies to protect water quality, reduce runoff volume, and to garner additional benefits.

Traditional approaches to stormwater management involve conveying runoff off-site to receiving waters, to a combined sewer system, or to a regional facility that treats runoff from multiple sites. These designs typically include hard infrastructure, such as curbs, gutters, and piping. LID-based designs, in contrast, are designed to use natural drainage features or engineered swales and vegetated contours for runoff conveyance and treatment. In terms of costs, LID techniques like conservation design can reduce the amount of materials needed for paving roads and driveways and for installing curbs and gutters. Conservation designs can be used to reduce the total amount of impervious surface, which results in reduced road and driveway lengths and reduced costs. Other LID techniques, such as grassed swales, can be used to infiltrate roadway runoff and eliminate or reduce the need for curbs and gutters, thereby reducing infrastructure costs. Also, by infiltrating or evaporating runoff, LID techniques can reduce the size and cost of flood-control structures.⁵

² Coffman, Larry. *Low Impact Development: Smart Technology For Clean Water, Definitions, Issues, Roadblocks, and Next Steps*. American Society of Civil Engineers, 2004. Web. 16 August 2011. p. 1.

³ USEPA. *Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices*. EPA 841-F-07-006, December 2007. Web. 16 August 2011.

⁴ *A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption*. Beltsville, Maryland: Low Impact Development Center; State Water Resources Control Board; The Water Board Academy, December 2007. Web. 16 August 2011.

⁵ USEPA. *Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices*. EPA 841-F-07-006, December 2007. Web. 16 August 2011.

Some other potential economic benefits associated with LID strategies, include, but are not limited to, reduced need for flood control and increased property values.⁶ LID can also provide the benefit of additional groundwater supplies. In addition, actions taken to address adverse impacts associated with new and redevelopment, especially actions based in LID, can decrease societal costs of environmental clean-ups, such as fewer Total Maximum Daily Loads and less correction of stream stability problems.

Central Coast Water Board staff has taken substantial steps to ease municipalities' cost burden in implementing the Draft Post-Construction Requirements. Development of hydromodification control criteria through the Joint Effort is itself a significant financial assistance to municipalities, since municipalities are typically tasked with that effort and provided no financial assistance to undertake it. Central Coast Water Board staff included specific guidance for Stormwater Control Measure design in the Post-Construction Requirements, and will provide the template for developing the required Stormwater Control Plan. Once the Draft Post-Construction Requirements are approved, Central Coast Water Board staff will provide a User's Guide to support Permittees in implementing the Draft Post-Construction Requirements. Flow charts for the Draft Post-Construction Requirements will be included, describing the requirements in simple terms (flow charts were also provided with the May 14 Draft Post-Construction Requirements). The Central Coast Water Board funded development and implementation of Municipal Regulatory Update Training webinars focused on aiding municipalities with review, revision, and presentation of new and amended regulatory language for implementation of the Draft Post-Construction Requirements. This training provided municipalities with a Regulatory Impediment Gap Analysis Tool that guides municipalities through the process of incorporating hydromodification control and LID provisions into codes and ordinances. Also, the Central Coast Water Board funded the development of Technical Assistance Memorandums that explain critical design features of various LID approaches. In addition, the Central Coast Water Board-funded Central Coast LID Initiative will continue to offer assistance to municipalities. Areas of focus for this assistance will include: targeted assistance with code updates; continued guidance and training for bioretention design; guidance on Stormwater Control Plans and how municipalities can use them in the project review and approval process; policy alternatives for Alternative Compliance; and continued project consultation and partnering, including grant writing.

Central Coast Water Board staff finds that the annual reporting requirements are reasonable and necessary. The information requested in the annual reporting requirements includes deliverables required by the Post-Construction Requirements and information about projects triggering the Post-Construction Requirements. Since the Permittees will be tracking project information for projects subject to the Post-Construction Requirements, it should not be burdensome to report the information to the Central Coast Water Board.

6. Issue: Consistency with other Permits (Phase I and Phase II General Permit)

a. Public Comment

A common theme in the comments is a desire for the Central Coast Region to have post-construction requirements that are consistent with other regions of the State. The comments make various suggestions as to where there should be consistency, including in: a) applicability thresholds, b) the requirements triggered by those thresholds, and c) the schedule for adherence to the requirements. The California Stormwater Quality Association (CASQA)

⁶ MacMullan, Ed. "Assessing Low Impact Developments Using a Benefit-Cost Approach." *2nd National Low Impact Development Conference, March 12-14, 2007*. ECONorthwest. Web. 16 August 2011.

comments that, “this lack of a cohesive approach and standard has created an uneven playing field for communities and developers” (CASQA 1).

Some comments recommend that the Draft Post-Construction Requirements be revised to contain the applicability thresholds and hydromodification management requirements used by Phase I permits in the Bay Area, Southern California, and Sacramento regions (e.g., Santa Clara County 9, CASQA 3). In one case the comment suggests the value of consistency would be that Central Coast municipalities would be held to what the comment perceives to be the Bay Area’s less stringent requirements (Santa Clara County 1).

With regards to consistency with the pending renewal of the State Water Board’s Phase II Municipal Stormwater General Permit, comments suggest the Central Coast Water Board not adopt the Draft Post-Construction Requirements and instead provide oversight for timely implementation of the Phase II General Permit. Reasons cited for this are that Central Coast requirements purportedly may serve as a model for criteria in the Phase II General Permit, and that the Central Coast Water Board’s approval of the Draft Post-Construction Requirements could affect final or future language in the Phase II Permit, which is scheduled for adoption sometime in October (e.g., CASQA 4, Cloak 2).

b. Central Coast Water Board Staff Response

The Central Coast Water Board is not in a position to adopt requirements equivalent to Phase I permits around the State because those Phase I permits have evolved over longer time frames to include what the various Regional Water Boards find to be the most appropriate permit terms for their regions as required by law. Water Code Section 13000 emphasizes regional administration of statewide programs:

“The Legislature further finds and declares that the health, safety and welfare of the people of the state requires that there be a statewide program for the control of the quality of all the waters of the state;... that factors of precipitation, topography, population, recreation, agriculture, industry and economic development vary from region to region within the state; and that the statewide program for water quality control can be most effectively administered regionally, within a framework of statewide coordination and policy.”

It is not legally or technically defensible to adopt identical requirements across such a large and diverse state. Requirements that would be protective and reasonable in the Mojave Desert would not be protective, reasonable or defensible in the northwest Redwood forest, and visa versa. In this sense, there may be an “uneven playing field,” but it is uneven in terms of *precipitation, topography, population, recreation, agriculture, industry and economic development*, and what is necessary to protect water quality in each Region. Also, we find that often the desire for consistent requirements is driven by the fact that at any given time one Region may have less strict requirements than others, and permittees would prefer to have the least strict requirement applied everywhere. However, this type of consistency is not legally and technically defensible because it cannot protect water quality and beneficial uses.

However, the concept of consistency is important in terms of methodology. The Central Coast Region’s Joint Effort was predicated on developing a consistent methodology throughout the Central Coast Region and the resulting Post-Construction Requirements are tailored to the landscape conditions of this region and individual municipalities. This is what our Central Coast municipalities asked for—a consistent approach that would yield requirements applicable to their locations

When comparing the Draft Post-Construction Requirements to other Region's requirements to determine their relative stringency, it is important to consider both the size threshold for applicability (e.g., ½ acre vs. 1 acre), as well as what is actually required at that threshold (e.g., water quality treatment via LID measures vs. water quality treatment via non-LID measures). For example, the San Francisco Bay Water Board's Municipal Regional Permit's (SF MRP) flow control requirement triggered at 1 acre is a flow duration control standard predicated on regional modeling and implemented through various software packages and guidance manuals (e.g. Santa Clara Valley and Contra Costa County C.3 guidance) paid for by Bay Area Permittees. Even if Central Coast Water Board staff found flow duration control standards were the best approach for the Central Coast Region, the cost of verifying that through hydrologic modeling, and the subsequent development of software and guidance to implement the standards, are not reasonably borne by Central Coast Phase II Permittees in the current economic climate. Instead, Central Coast Water Board staff has proposed a volume-based performance requirement for flow control starting at 15,000 ft² of new and/or replaced impervious surface.

In terms of the threshold at which these two regions invoke flow control requirements, the SF MRP uses 1 acre, and the Central Coast Post-Construction Requirements use about 1/3 acre (15,000 ft²). However, in terms of what is actually required at these project size thresholds, the Central Coast requirements require a less complex event-based hydraulic analysis and sizing approach to control runoff volume, while the SF MRP requires matching flow duration curves developed through more complex continuous simulation modeling.

For water quality treatment, requirements are triggered in the SF MRP at 5,000 ft² of new and/or replaced impervious surface for select land uses, and 10,000 ft² for all others; while the Central Coast Post-Construction Requirements are triggered at 5,000 ft² of Net Impervious Area. However, in terms of what is required for water quality treatment, the SF MRP has the more rigorous requirement that LID (infiltration and retention-based Stormwater Control Measures) be used to treat runoff, as compared to the Central Coast Post-Construction Requirements. The Draft Central Coast Post-Construction Requirements state a preference for, but do not require LID for projects below 15,000 ft². This example reveals that the Draft Central Coast Post-Construction Requirements are less stringent than the SF MRP.

A team of subject area experts created a methodology, based on landscape-specific conditions in the Central Coast, for developing the Post-Construction Requirements. The Post-Construction Requirements are based on this methodology. Therefore, Central Coast Water Board staff finds that the Post-Construction Requirements are necessary for protection of water quality in this Region and are the appropriate requirements regardless of how other Regional Water Boards and municipalities may choose to address conditions in their Regions.

Regarding calls for consistency with the Phase II General Permit, the post-construction requirements in the State Water Board's May 2012 draft Phase II Municipal Stormwater Permit are comparable to the Draft Post-Construction Requirements. Both sets of requirements have very similar site design, treatment, and operation and maintenance requirements.

To the extent that the Draft Post-Construction Requirements will serve as a model for the Phase II Municipal Permit's hydromodification control and LID criteria, the State Water Board intends to have California Phase II municipalities implement post-construction requirements that protect watershed processes. The draft Phase II Municipal Stormwater Permit provides a mechanism for State and Regional Boards to pursue this goal but does not identify specific post-construction criteria associated with the goal. However, Central Coast municipalities, through

adoption of the Draft Post-Construction Requirements, will have landscape-specific criteria to protect watershed processes consistent with the goals of the Draft Phase II Municipal Permit. This would largely eliminate any further costs for Central Coast Permittees to comply with the post-construction provisions of the renewed Phase II Municipal Permit, while also providing regulatory certainty for Central Coast municipalities and developers compared to other Phase IIs across the State.

The Phase II Municipal Permit may specify a timeframe for municipalities in other Regions to develop post-construction requirements that protect watershed processes. Additional time may be justified for municipalities in other regions, since they will potentially be faced with having to develop the requirements without the type of assistance provided Central Coast municipalities by the Joint Effort.

Central Coast Water Board staff also finds that delaying implementation in order to achieve a consistent schedule throughout the State is unjustified, since the Post-Construction Requirements should be implemented as soon as possible to address potential impacts to watershed processes from future development in the coastal region and that not doing so fails to maximize the opportunity to best protect water quality.

7. Issue: Regulatory Takings

a. Public Comment

Comments suggest that the proposed requirements may be construed as a regulatory taking. They argue that the “ability of an individual to develop or redevelop his or her legal conforming lot, in a manner consistent with the adopted General Plan and Zoning designation is understood as an essential property right. If a site is constrained in such a way that it is not possible to develop the property, due to CCRWQCB dictated stormwater requirements, it may be found to have denied the property owner economic use of the land. In cases where an alternative compliance project is required, a suitable location and size of property must be obtained and a project identified, legal agreements made, development approvals obtained from the agency having jurisdiction, a clear nexus to the project's impact on storm water identified and then related directly to assessed fees and costs to be paid by the developer. If these things cannot be accomplished, a Taking might be construed, resulting in litigation against the CCRWQCB and/or other public entities.” Additional requirements surrounding off-site mitigation “form a barrier to development sufficient to support the argument that a Regulatory Taking has occurred” (Goleta 5).

Other comments suggest that mitigating impacts from existing development would also constitute a taking, consistent with U.S. Supreme Court rulings. This argument says that the Permittee must demonstrate a “reasonable relationship” between the conditions imposed on a development's permit and the development's impact. In instances where the Permittee implemented Post-Construction requirements that have no nexus to the impact of the proposed development, the Permittee would be potentially liable for a taking (Atascadero 2).

b. Central Coast Water Board Staff Response

Central Coast Water Board staff revised the Draft Post-Construction Requirements to provide exceptions for technical infeasibility which should resolve the potential for a parcel to be undevelopable because of the Draft Post-Construction Requirements.

There are two takings arguments being made by commenters. The first is that the Post-Construction Requirements are regulatory takings. The second is that the Post-Construction Requirements are land-use exactions that are takings. The first argument is based on the

Supreme Court case *Penn Central Transportation Co. v. City of New York* (1978) 438 U.S. 104 and the second argument is based on the Supreme Court case *Dolan v. City of Tigard*, (1994) 512 U.S. 374. The Post-Construction Requirements are not takings under either argument.

Under *Penn Central*, the Court found that there is no “set formula” for evaluating regulatory takings claims, but that there are several significant factors that have particular significance. (*Penn Central Transportation Co. v. City of New York* (1978) 438 U.S. 104, 124). One of the factors includes the economic impact of the regulation on the claimant, and particularly, the extent to which the regulation has interfered with distinct investment-backed expectations. (*Ibid.*) The Court noted that the government may execute laws or regulations that adversely affect recognized economic values. (*Ibid.*) In the zoning context, the Court has upheld land-use regulations that destroyed or adversely affected recognized real property interests where the regulations promote the “health, safety, morals, or general welfare.” (*Id.* at 125 (citing *Nectow v. Cambridge* (1928) 277 U.S. 183, 188).) Where the land use regulations promote the general welfare, a diminution in property value, standing alone, is not enough to establish a taking. (*Id.* at 131 (citing *Euclid v. Ambler Realty Co.* (1926) 272 U.S. 365).) The second factor is the character of the governmental action. (*Id.* at 124.) A court will more readily find a taking where the interference with property can be characterized as a physical invasion by the government than when the interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good. (*Ibid.*)

The Post-Construction Requirements do not constitute a regulatory taking under *Penn Central*. The Court made it clear that governments can diminish recognized economic values, especially when the laws or regulations are promoting the public good. While the Post-Construction Requirements may have an economic impact on landowners, the requirements promote the general welfare by protecting water quality and beneficial uses. These regulations will not destroy a landowner’s real property interests as the land may be used for other purposes other than development. The Post-Construction Requirements do not impact existing development, unless that development is redeveloped. Furthermore, the character of the Post-Construction Requirements adjusts the benefits and burdens of economic life to promote the common good. These requirements may diminish the economic benefits of development or redevelopment, but as stated above, the requirements promote the general welfare.

The second argument is that the Post-Construction Requirements are land-use exactions, like the case in *Dolan* where a permit to expand a store and parking lot was conditioned on the property owner dedicating a portion of the property for a “greenway.” (*Dolan v. City of Tigard*, (1994) 512 U.S. 374, 379-80.) In these types of land use regulations, the Supreme Court found that it is not a taking if it substantially advances a legitimate state interest and does not deny an owner economically viable use of his land. (*Id.* at 385.) To determine whether a land use regulation is a taking, the court must first determine whether the “essential nexus” exists between the “legitimate state interest” and the permit condition exacted by the city; and second, if such a nexus exists, the court must then decide the required degree of connection between the exactions and the projected impact of the proposed development. (*Id.* at 386.)

Clearly, there is a legitimate state interest in improving water quality by preventing contaminated stormwater from entering water bodies, increasing water supplies in local underground aquifers, and diminishing the effects to watershed processes of impermeable surfaces as a result of development. There is also a sufficient nexus between the legitimate state interest in water quality and the Draft Post-Construction Requirements, as the Draft Post-Construction Requirements were developed to minimize the effects of development on ground and surface

waters. Therefore, the Draft Post-Construction Requirements meet the first part of the takings analysis under *Dolan*.

In *Dolan*, the Supreme Court found that there must be a “rough proportionality” between the degree of the exactions demanded by the city’s permit conditions and the project impact of the proposed development to meet the second part of the analysis. (*Id.* at 387, 391.) The Supreme Court has stated that “rough proportionality” means that the required exaction is related both in nature and extent to the impact of the proposed project. (*Id.* at 391.) In this case, the required post-construction controls are related both in nature and extent to the impact of the development projects. The impacts to water quality from these development projects include pollutant discharges and excessive instream erosion, which the Draft Post-Construction Requirements are specifically designed to address. The exactions give developers the flexibility of alternative compliance measures if on-site mitigation is infeasible, therefore not depriving the developers of economic beneficial use of their property. The Draft Post-Construction Requirements are tailored to the size and impact of the project, and satisfy the Supreme Court’s test of “rough proportionality.”

The Post-Construction Requirements meet both parts of the takings analysis, and so are not a taking under the Fifth Amendment.

8. Issue: Deadline for Applying Post-Construction Requirements and Related Issue Concerning Regulated Projects Approved by Ministerial Permit

a. Public Comment

Considerable comment surrounds the requirement that Permittees apply the Post-Construction Requirements to discretionary, ministerial and public projects within 180-days of Water Board approval. Comments state this is overly complicated and onerous and lacks basic fairness, since significant time and money has already been invested into a project design by the time the project is ready for consideration of its discretionary permits (e.g., Atascadero 1, Goleta 1, 2). They point out that this could potentially affect projects that have already been granted discretionary and ministerial approvals, but may need minor reconsiderations or administrative modifications. Where development is “virtually non-existent and what is being built are dormant projects that have been approved, entitled, or partially constructed years ago,” the comments suggest that completion of these projects provides a needed “reduction in blighted properties, spurs economic development, and creates jobs. However most, if not all, have precarious financing at best and additional development costs could force them back into dormancy,” (Atascadero 1). One solution suggested is to revise the Draft Post-Construction Requirements so that all new or resubmitted applications for Discretionary, Ministerial and Public projects not accepted as complete for processing, apply the Post-Construction Requirements starting 180 days from the Water Board adoption date (*Ibid.*).

Comments also argue that applying the Performance Requirements to ministerial permits (e.g., building permits and grading permits that do not undergo a discretionary review process) is not implementable (e.g., Goleta 2, Lompoc 5, Garnand 2, 29). This argument asserts that “ministerial permits are those which are acted upon in a prescribed manner in obedience to the mandate of legal authority, without regard to, or the exercise of, personal judgment” (Goleta 2). Since some provisions in the Draft Post-Construction Requirements require the exercise of discretion to evaluate for example, technical feasibility, commenters argue they cannot be applied through ministerial permits.

b. Central Coast Water Board Staff Response

Central Coast Water Board staff modified Draft Post-Construction Requirements Section B.1.e to provide clarity about the 180 day implementation deadline. Staff's intent with the language in Section B.1.e is to require that Permittees apply the Post-Construction Requirements to as many projects as practical by tying the new requirements to the latest point in the planning process where a municipality can impose new requirements on a project. Central Coast Water Board staff understands that there is a point and time in the planning process when the rules and regulations to which a developer must adhere are legally set and cannot change. Some entities have argued that the "deemed complete" stage of a project application is not the most appropriate point to apply the Post-Construction Stormwater requirements. The "deemed complete" trigger is from the Permit Streamlining Act and does not necessarily directly coincide with the most appropriate point in the development approval process to impose stormwater regulations. Also, the content of applications deemed complete is not consistent from jurisdiction to jurisdiction.

Central Coast Water Board staff modified Section B.1.e to allow Permittees to propose, to the Central Coast Water Board Executive Officer, a lesser application of the Post-Construction Requirements for projects deemed complete prior to the Central Coast Water Board approval of the Post-Construction Requirements. The Central Coast Water Board Executive Officer will consider a lesser application of the Post-Construction Requirements for projects where the full application of the Post-Construction Requirements would pose financial hardship for the project.

Municipalities throughout the Central Coast Region have differing protocols for determining whether or not a project becomes a discretionary project. Because the Post-Construction Requirements apply to many municipalities, Central Coast Water Board staff found it necessary to ensure that all applicable projects, whether ministerial or discretionary, adhere to the Post-Construction Requirements. Other California municipalities (e.g., municipalities regulated by the Phase I San Diego County Municipal Stormwater Permit) have been applying post-construction requirements to both ministerial and discretionary projects for a few years now. Central Coast Water Board staff's understanding is that if the Permittee updates all applicable codes, ordinances, etc. to include the Post-Construction Requirements, then the Permittee can apply the Post-Construction Requirements to ministerial projects. The Permittee will need to update its codes, ordinances, etc. such that it will not be in a position where it cannot apply the Post-Construction Requirements to applicable ministerial projects. If the Permittee finds that components of the Post-Construction Requirements that could apply to ministerial projects would require subjective judgment by the Permittee, the Permittee may need to codify the requirements such that they are based on objective judgments (i.e., establishing fixed standards for Post-Construction Requirements that are subjective), so long as the requirements achieve the objective of the Post-Construction Requirements.